



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-1074; Project Identifier MCAI-2021-00447-R; Amendment 39-22195; AD 2022-20-11]

RIN 2120-AA64

Airworthiness Directives; Bell Textron Canada Limited Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Bell Textron Canada Limited Model 429 helicopters. This AD was prompted by reports of failed rivets between the tailboom skin and the tail rotor (TR) gearbox support assembly. This AD requires visually inspecting the external surface of the TR gearbox support assembly, borescope inspecting or visually inspecting the inside of the tailboom for certain conditions, and performing a tactile inspection. Depending on the results of the inspections, this AD requires removing certain rivets from service or repairing gaps in accordance with an approved method. This AD also requires repeating these inspections within certain intervals. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Bell Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email productsupport@bellflight.com; or at bellflight.com/support/contact-support. You may view the referenced service information at the FAA, Office of the Regional Counsel,

Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. Service information that is incorporated by reference is also available at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2021-1074.

Examining the AD Docket

You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2021-1074; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the Transport Canada AD, any comments received, and other information. The street address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to Bell Textron Canada Limited Model 429 helicopters, serial numbers (S/N) 57001 and subsequent. The NPRM published in the *Federal Register* on December 23, 2021 (86 FR 72891). In the NPRM, the FAA proposed to require visually inspecting the external surface of the TR gearbox support assembly, borescope inspecting or visually inspecting the inside of the tailboom for certain conditions, and performing a tactile inspection. Depending on the results of the inspections, the NPRM proposed to require removing certain rivets from service or repairing gaps in accordance with FAA-approved methods. The NPRM also proposed to require repeating these inspections within certain intervals.

The NPRM was prompted by Transport Canada AD CF-2021-15, dated April 14, 2021 (Transport Canada AD CF-2021-15), issued by Transport Canada, which is the

aviation authority for Canada, to correct an unsafe condition for Bell Textron Canada Limited Model 429 helicopters, S/N 57001 and subsequent. Transport Canada advises of multiple in-service reports of failed rivets at the joint between the tailboom skin and the TR gearbox support assembly part number (P/N) 429-034-701-101 or P/N 429-035-705-101. Transport Canada states that in-service reports also revealed a quality escape resulted in a gapping condition between the tailboom skin and the TR gearbox support fitting at some locations around the joint, and that rivets of inadequate grip length have been installed at the affected joint. This condition, if not addressed, could result in progressive deterioration of the joint structural integrity, detachment of the TR gearbox support assembly and loss of control of the helicopter.

Accordingly, Transport Canada AD CF-2021-15 requires, for certain serial-numbered helicopters, an initial visual inspection of the rivets at the TR gearbox support assembly for signs of failed rivets or inadequate grip length. Transport Canada AD CF-2021-15 also requires, for all serial-numbered helicopters defined in the applicability, repeating the initial visual inspection at intervals not to exceed 400 hours air time or 12 months, whichever occurs first. Transport Canada AD CF-2021-15 also requires repair or replacement of affected parts if discrepancies are found. Transport Canada considers its AD an interim action and states that further AD action may follow.

After the FAA issued the NPRM, the FAA issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to Bell Textron Canada Limited Model 429 helicopters, S/N 57001 and subsequent. The SNPRM published in the *Federal Register* on April 22, 2022 (87 FR 24077). The SNPRM proposed to require visually inspecting the external surface of the TR gearbox support assembly, borescope inspecting or visually inspecting the inside of the tailboom for certain conditions, and performing a tactile inspection. Depending on the results of the inspections, the SNPRM proposed to require removing certain rivets from service or repairing gaps in accordance with FAA-approved methods. The SNPRM also proposed to require repeating these inspections within certain intervals.

The SNPRM was prompted by the FAA's determination that due to thermal cycling, the compliance times in the NPRM should be revised to include calendar

compliance times. According to Bell, thermal cycling is independent of flight hours (FH) and can occur when an aircraft is stationary and is also a significant contributor to the unsafe condition. Accordingly, the FAA determined the proposed paragraph (g) of the NPRM had to be revised by including calendar compliance times. Also, after the NPRM was issued, the FAA determined the proposed paragraph (g)(1)(iii) of the NPRM had to be revised by deleting the word “not” when referring to whether or not a rivet comes out when pulled with pliers or when pulled by hand. This wording was incorrect and the correct wording should only state “does.” Accordingly, these changes were included in the SNPRM.

Discussion of Final Airworthiness Directive

Comments

The FAA received one comment from Air Methods. The following presents the comment received on the SNPRM and the FAA’s response.

Request for More Information

The commenter stated Transport Canada AD CF-2021-15 requires replacing any rivets and repairing any gaps that exceed 0.005 in (0.127 mm) in accordance with an approved Bell structural repair scheme, whereas the proposed AD would require removing the rivets from service and repairing gaps in accordance with an FAA-approved method instead. The commenter stated that Bell does not normally provide FAA-approved documentation and requested that the FAA clarify whether the FAA is mandating receiving both a Bell Canada approval document and a separate 8110 from the FAA.

The FAA has revised paragraphs (g)(1)(i)(B) and (g)(1)(ii)(A)(2) of this final rule from “repair the gaps in accordance with an FAA-approved method” to “repairing any gaps in accordance with a method approved by the Manager, General Aviation & Rotorcraft Section, International Validation Branch, FAA; or Transport Canada; or Bell Textron Canada Limited’s Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.” The FAA also revised the Costs of Compliance section of this final rule to reflect these changes. These revisions clarify that operators are not limited to a single method of repair in order for a helicopter to be approved for return to service.

Additional Changes since the SNPRM was Issued

Since the FAA issued the SNPRM, the FAA has revised paragraphs (g)(1)(i)(A) and (B) of this final rule by adding the words “replace the rivets removed from service by paragraph (g)(1)(i) of this AD with airworthy rivets.” The FAA determined this revision clarifies which rivets should be replaced and that an airworthy rivet must be installed when these rivets are removed from service.

The FAA has also revised paragraphs (g)(1)(i) and (g)(1)(ii)(A) and (B) of this final rule by adding the words “remove these rivets from service.” The FAA determined this revision clarifies which rivets should be removed from service. Additionally, the FAA revised this final rule by adding paragraphs (g)(1)(ii)(A)(1) and (2) to this final rule, which describe the corrective actions that are required as a result of paragraph

(g)(1)(ii)(A). The FAA determined this revision was necessary to clarify which rivets should be removed from service and replaced after the gap measurements.

The FAA has also revised paragraph (g)(1)(ii)(B) of this final rule by adding the words “replace them with airworthy rivets.” The FAA determined this revision clarifies that an airworthy rivet must be installed to replace the rivet(s) that were removed from service.

Additionally, the FAA revised the corrective action for any gaps that equal 0.005 in (0.127 mm). In the SNPRM, the FAA proposed repairing those gaps in accordance with an FAA-approved method and removing the rivets from service. In this final rule, the FAA requires removing certain rivets from service and replacing them with airworthy rivets for that condition instead.

Finally, the FAA revised paragraph (g)(1)(iii) of this final rule by adding the words “remove any rivet from service that comes out when pulled with pliers or when pulled by hand and replace with an airworthy rivet.” The FAA determined this revision was necessary to clarify which rivets should be removed from service if corrective action is needed as a result of the tactile inspection and that an airworthy rivet must be installed to replace the rivet that was removed from service.

Conclusion

These helicopters have been approved by the aviation authority of Canada and are approved for operation in the United States. Pursuant to the FAA’s bilateral agreement with Canada, Transport Canada, its technical representative, has notified the FAA of the unsafe condition described in its AD. The FAA reviewed the relevant data, considered the comment received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters. Except for minor editorial changes and any other changes described previously, this AD is adopted as proposed in the SNPRM.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Bell Alert Service Bulletin (ASB) 429-19-47, Revision B, dated January 27, 2021. This service information specifies procedures for an initial and repetitive general visual inspections and detailed inspections of the affected rivets at the

joint between the tailboom skin and the TR gearbox support assembly. This service information also specifies procedures for replacing the affected rivets and repairing the gaps in accordance with an approved Bell structural repair scheme.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA also reviewed Bell ASB 429-19-47, dated August 28, 2019 (ASB 429-19-47), and Bell ASB 429-19-47, Revision A, dated November 2, 2020 (ASB 429-19-47 Rev A). ASB 429-19-47 specifies the same general visual inspection as ASB 429-19-47 Rev A however, ASB 429-19-47 Rev A introduces a repetitive inspection and specifies corrective actions if any discrepant rivets are found. ASB 429-19-47 Rev A specifies the same procedures for the initial and repetitive general visual inspections and detailed inspections as ASB 429-19-47 Rev B however, ASB 429-19-47 Rev B revises the compliance section, description section, and materials section, and also the accomplishment instructions.

Interim Action

The FAA considers this AD to be an interim action. Once final action has been identified, the FAA might consider further rulemaking.

Differences Between this AD and the Transport Canada AD

If there are any gaps that exceed 0.005 in (0.127 mm), Transport Canada AD CF-2021-15 requires replacing the rivets, repairing the gaps in accordance with an approved Bell structural repair scheme, and submitting certain information to the manufacturer. Whereas, if there are any gaps that exceed 0.005 in (0.127 mm), this AD requires removing the rivets from service and replacing the rivets with airworthy rivets. This AD also requires repairing those gaps in accordance with a method approved by the Manager, General Aviation & Rotorcraft Section, International Validation Branch, FAA; or Transport Canada; or Bell Textron Canada Limited's Transport Canada DAO instead. If there are any gaps that are 0.005 in (0.127 mm) or less, Transport Canada AD CF-2021-

15 requires replacing the rivets, whereas this AD requires removing the rivets from service and replacing them with airworthy rivets.

Costs of Compliance

The FAA estimates that this AD affects 120 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Visually inspecting the surface of the TR gearbox support assembly takes about 0.5 work-hour for an estimated cost of \$43 per helicopter per inspection and \$5,160 for the U.S. fleet per inspection.

If required, replacing an affected rivet takes about 1 work-hour and parts cost about \$110 per rivet for an estimated cost of \$195 per rivet replacement.

If required, measuring gaps takes about 0.5 work-hour for an estimated cost of \$43 per helicopter.

If required, repairing a gap in accordance with an FAA-approved method takes up to about 1 work-hour for an estimated cost of up to \$85 per repair. The FAA has no way to determine the cost estimate of repairing a gap using a method approved by Transport Canada, or Bell Textron Canada Limited's Transport Canada DAO.

Visually inspecting or borescope inspecting the inside of the tailboom takes about 0.5 work-hour for an estimated cost of \$43 per helicopter per inspection and \$5,160 for the U.S. fleet per inspection.

Performing a tactile inspection takes about 0.5 work-hour for an estimated cost of \$43 per helicopter per inspection and \$5,160 for the U.S. fleet per inspection.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-20-11 Bell Textron Canada Limited: Amendment 39-22195; Docket No. FAA-2021-1074; Project Identifier MCAI-2021-00447-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bell Textron Canada Limited Model 429 helicopters, serial numbers (S/N) 57001 and subsequent, certificated in any category.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 5302, Rotorcraft tailboom.

(e) Unsafe Condition

This AD was prompted by reports of failed rivets between the tailboom skin and the tail rotor (TR) gearbox support assembly. The FAA is issuing this AD to detect failed rivets and rivets with inadequate grip length. The unsafe condition, if not addressed, could result in deterioration of the joint structural integrity, detachment of the TR gearbox support assembly, and loss of helicopter control.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) As of the effective date of this AD, for Model 429 helicopters S/N 57002 through 57210 inclusive and S/N 57212 and subsequent that have accumulated less than 300 total hours time-in-service (TIS), within 100 hours TIS or 6 months after accumulating 300 total hours TIS, whichever occurs first; or for Model 429 helicopters S/N 57002 through 57210 inclusive and S/N 57212 and subsequent that have replaced the TR gearbox support assembly part number (P/N) 429-034-701-101 or P/N 429-035-705-101 and the helicopter has accumulated less than 300 total hours TIS since the replacement of the TR gearbox support assembly, within 100 hours TIS or 6 months after accumulating 300 total hours TIS since the replacement, whichever occurs first:

(i) Visually inspect the external surface of the TR gearbox support assembly for any rivet heads that have separated from their tail. If there are any rivet heads that have separated from their tail, before further flight, remove these rivets from service and measure any gaps between the TR gearbox support assembly and the tailboom skin by following the Accomplishment Instructions, Part I, paragraphs 9.b. through 9.d. of Bell Alert Service Bulletin 429-19-47, Revision B, dated January 27, 2021 (ASB 429-19-47 Rev B).

(A) If there are no gaps or if any gap measures 0.005 in (0.127 mm) or less, before further flight, replace the rivets removed from service by paragraph (g)(1)(i) of this AD with airworthy rivets.

(B) If there are any gaps that exceed 0.005 in (0.127 mm), before further flight, repair the gaps, and replace the rivets removed from service by paragraph (g)(1)(i) of this

AD with airworthy rivets. This AD requires repairing any gaps in accordance with a method approved by the Manager, General Aviation & Rotorcraft Section, International Validation Branch, FAA; or Transport Canada; or Bell Textron Canada Limited's Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(ii) Borescope inspect or use a light source and mirror to visually inspect each rivet inside the tailboom for any missing rivet tails, any rivet tails resting at the bottom of the tailboom, and any rivet tails not resting against the tailboom skin.

(A) If there are any missing rivet tails, or any rivet tails resting at the bottom of the tailboom, before further flight, remove these rivets from service, and measure any gaps between the TR gearbox support assembly and the tailboom skin by following the Accomplishment Instructions, Part I, paragraphs 9.b. through 9.d. of ASB 429-19-47 Rev B.

(1) If there are no gaps or if any gap measures 0.005 in (0.127 mm) or less, before further flight, replace the rivets removed from service by paragraph (g)(1)(ii)(A) of this AD with airworthy rivets.

(2) If there are any gaps that exceed 0.005 in (0.127 mm), before further flight, repair the gaps, and replace the rivets removed from service by paragraph (g)(1)(ii)(A) of this AD with airworthy rivets. This AD requires repairing any gaps in accordance with a method approved by the Manager, General Aviation & Rotorcraft Section, International Validation Branch, FAA; or Transport Canada; or Bell Textron Canada Limited's Transport Canada DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

(B) If there are any rivet tails not resting against the tailboom skin, before further flight, remove these rivets from service and replace them with airworthy rivets.

(iii) Perform a tactile inspection of the rivets identified in Figure 1 of ASB 429-19-47 Rev B, by pulling on each rivet tail with pliers or pulling by hand. If any rivet does come out when pulled with pliers or when pulled by hand, before further flight, remove any rivet from service that comes out when pulled with pliers or when pulled by hand and replace with an airworthy rivet.

(2) For Model 429 helicopters S/N 57002 through 57210 inclusive and S/N 57212 and subsequent that are not identified in paragraph (g)(1) of this AD, within 100 hours TIS or 6 months after the effective date of this AD, whichever occurs first, perform the actions as specified in paragraphs (g)(1)(i) through (iii) of this AD.

(3) For Model 429 helicopters S/N 57002 through 57210 inclusive and S/N 57212 and subsequent, within 400 hours TIS or 12 months, whichever occurs first after the initial inspections required by paragraph (g)(1) or (2) of this AD, as applicable to your helicopter, and thereafter at intervals not to exceed 400 hours TIS or 12 months, whichever occurs first, accomplish the actions required by paragraphs (g)(1)(i) through (iii) of this AD.

(4) For Model 429 helicopters S/N 57001 and 57211, within 400 hours TIS or 12 months after the effective date of this AD, whichever occurs first, and thereafter at intervals not to exceed 400 hours TIS or 12 months, whichever occurs first, accomplish the actions required by paragraphs (g)(1)(i) through (iii) of this AD.

(h) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraphs (g)(1) and (2) of this AD, if those actions were performed before the effective date of this AD using Bell Alert Service Bulletin 429-19-47, Revision A, dated November 2, 2020; or Bell Alert Service Bulletin 429-19-47, dated August 28, 2019.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

(2) Bell Alert Service Bulletin 429-19-47, Revision A, dated November 2, 2020; and Bell Alert Service Bulletin 429-19-47, dated August 28, 2019, which are not incorporated by reference, contain additional information about the subject of this AD. This service information is available at the contact information specified in paragraphs (k)(3) and (4) of this AD.

(3) The subject of this AD is addressed in Transport Canada AD CF-2021-15, dated April 14, 2021. You may view the Transport Canada AD on the internet at [regulations.gov](https://www.regulations.gov) in Docket No. FAA-2021-1074.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bell Alert Service Bulletin 429-19-47, Revision B, dated January 27, 2021.

(ii) [Reserved]

(3) For Bell service information identified in this AD, contact Bell Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email productsupport@bellflight.com; or at bellflight.com/support/contact-support.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on September 19, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-22593 Filed: 10/21/2022 8:45 am; Publication Date: 10/24/2022]